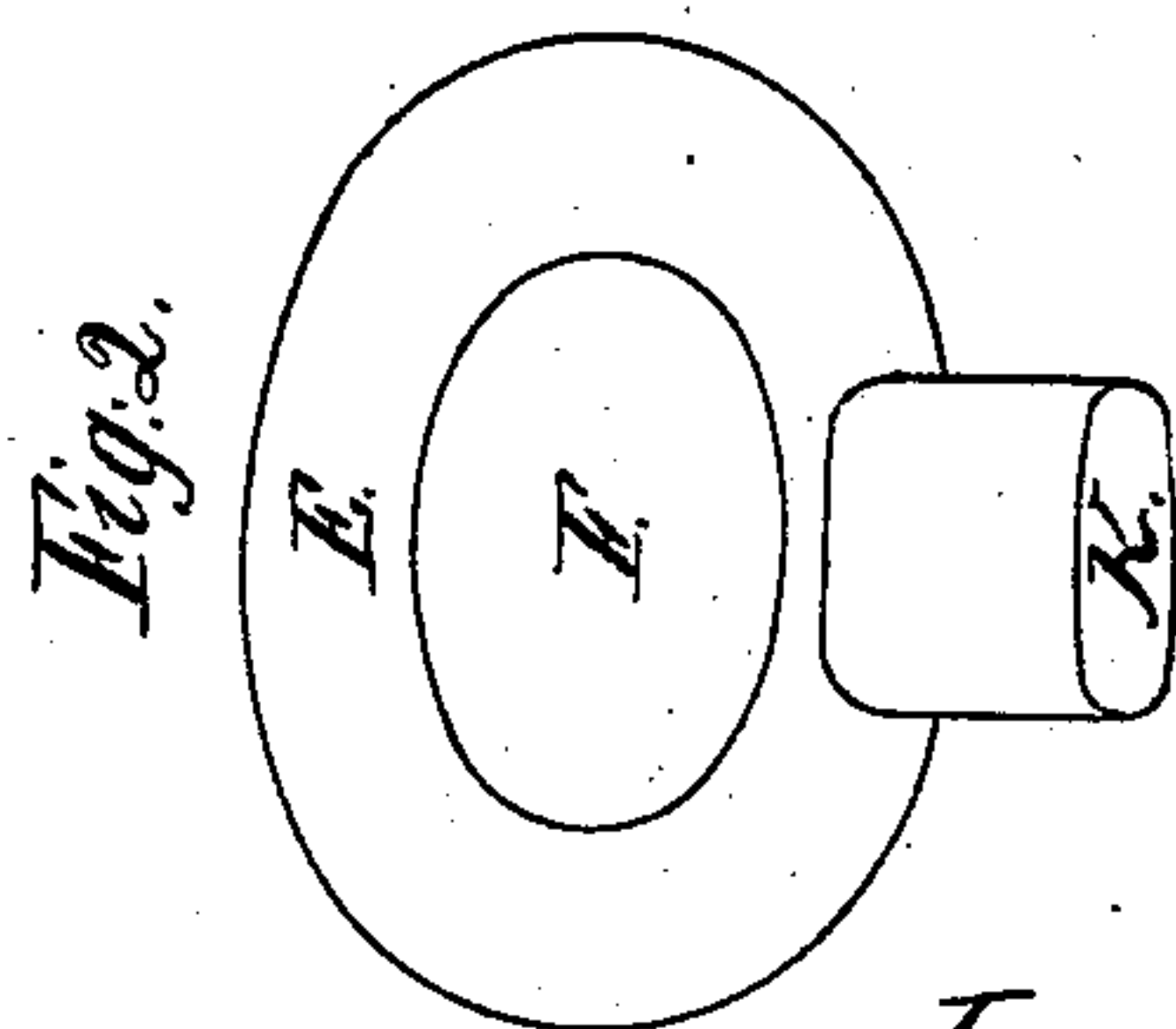
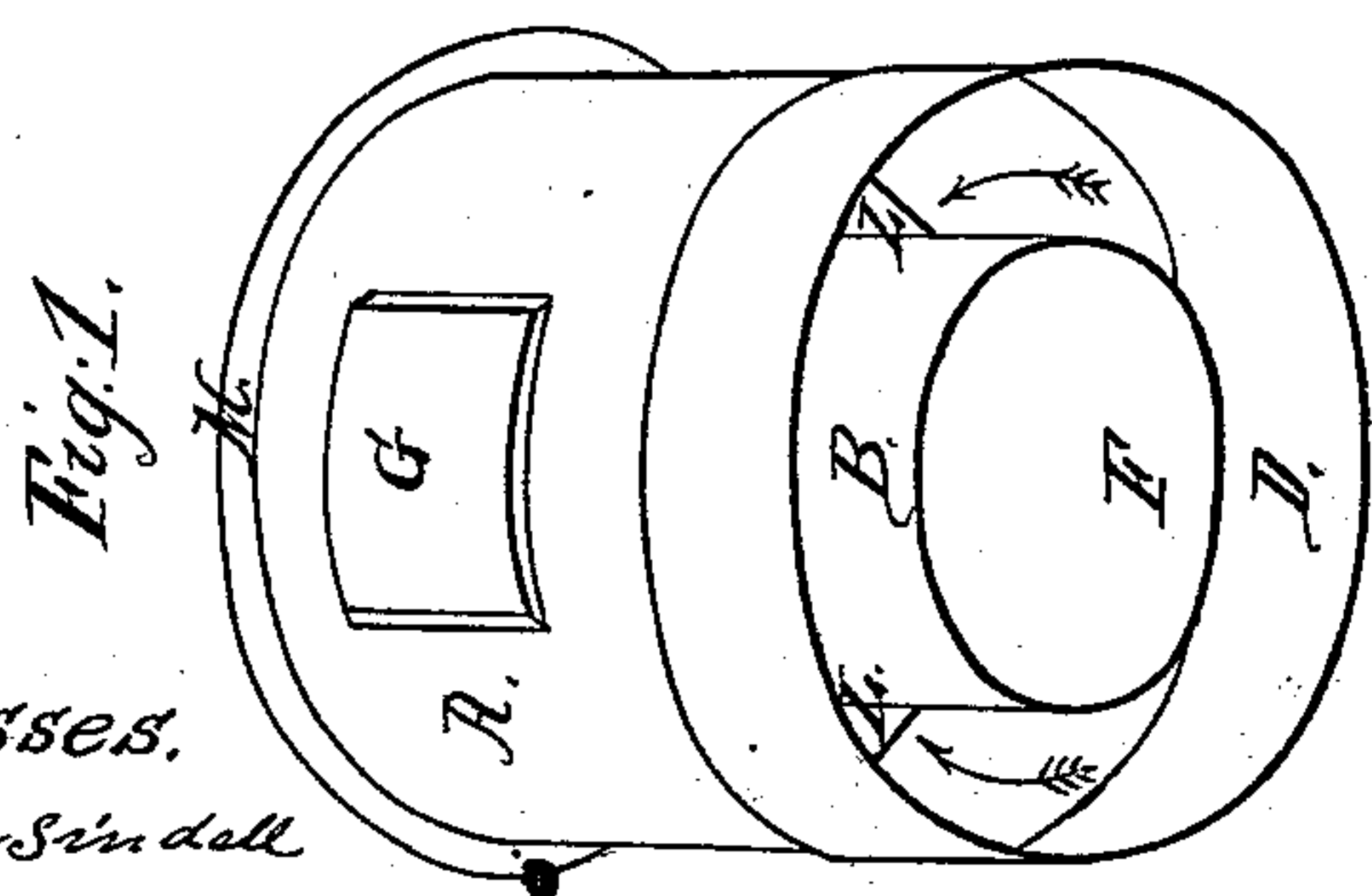
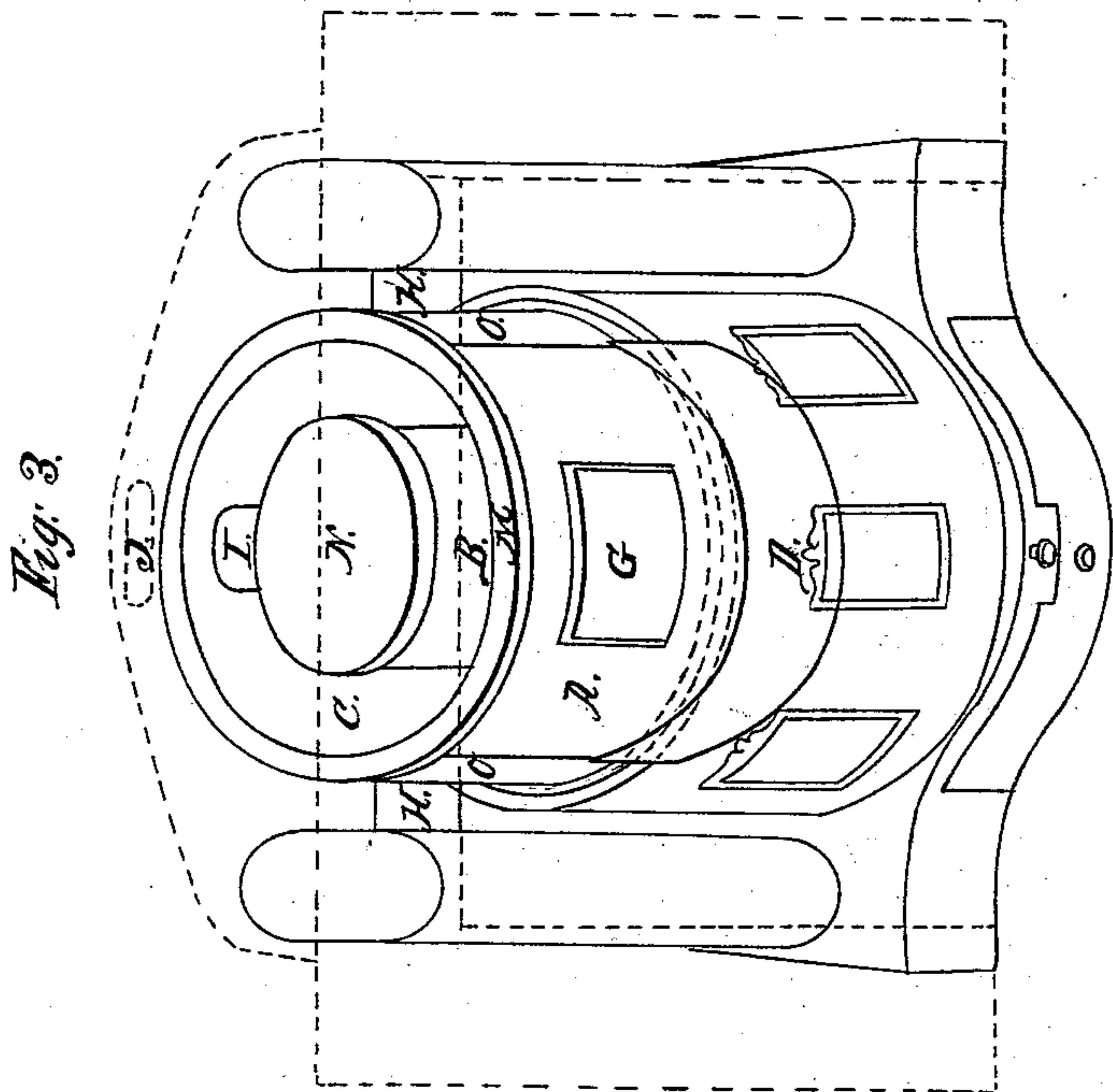
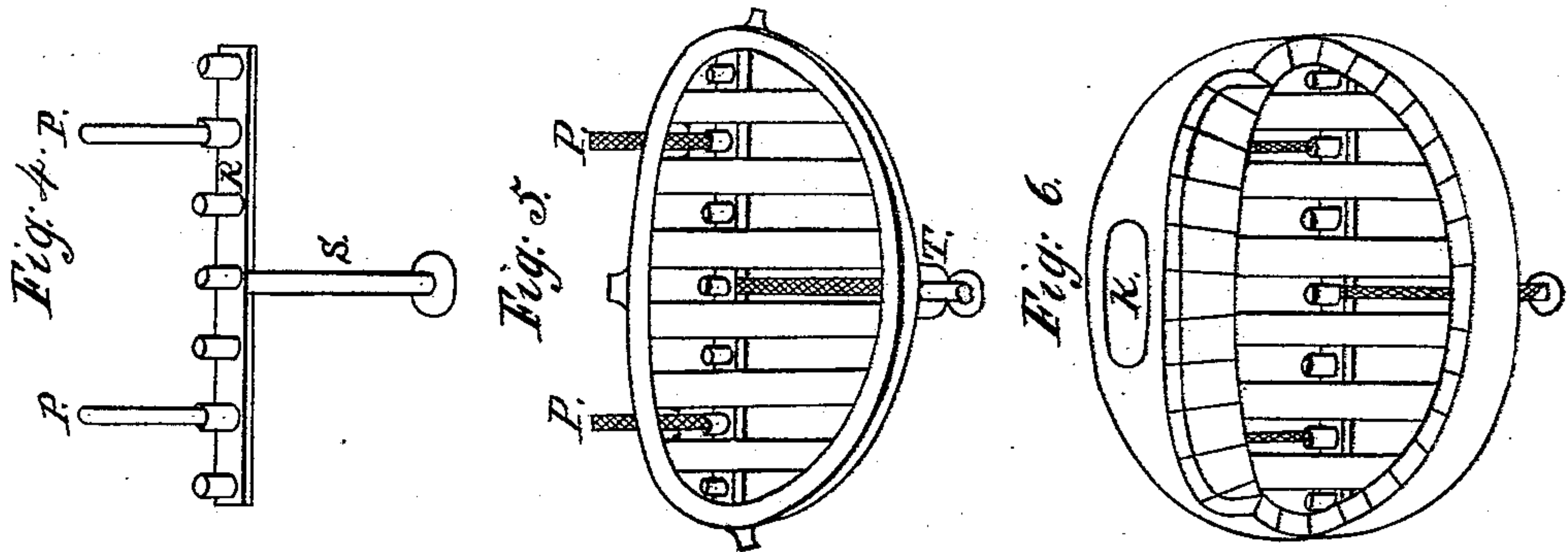


G. W. Beard.

Heating Stove.

N^o 61,795.

Patented Feb 5, 1867



Witnesses.
Richard C. Sindell
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Inventor.
George W. Beard.

United States Patent Office.

GEORGE W. BEARD, OF BALTIMORE, MARYLAND.

Letters Patent No. 61,795, dated February 5, 1867.

HEATING STOVE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE W. BEARD, of the city and county of Baltimore, in the State of Maryland, have invented certain new and useful improvements in Stoves; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, the figures and letters indicating the several parts as follows:

In Figure 1, A is the air-heating chamber; B the inside flue; D the lower chamber; F the fire-flue; G the coal-flue or feeder; L the opening through which the air is to pass from the lower to the upper chamber; and the arrow indicates the direction of the air from the bottom.

In Figure 2, E is a cast-iron bottom; F is the fire-flue; and K is a collar through which the air enters the heating chamber.

In Figure 3, the black lines represent the air-heating chamber; the red lines the stove; and the dotted lines the frame and casing around the stove. C represents the chamber, of two and a half inches; H, collars; I, collars between the two fire-chambers; J, the stove pipe; M, the cast-iron rim or top; O, the space in which the fire acts on the stove and chamber.

In Figure 4, P represents the sliding-bars of the rake; R, the teeth-bar; and S, the handle.

In Figure 5, P represents the sliding-bars of the grate; and T, the bars.

In Figure 6, K shows where collar K in fig. 2 is placed.

The nature of my invention consists in constructing and adapting to a stove a heating chamber of peculiar construction; also, in the construction and adaptation to a furnace of an improved rake.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

I make the stove, furnace, or heater, upright and cylindrical in any of the known forms, and apply thereto an inner double cylinder, say fifteen inches high, eleven inches in diameter, and with a flue in the centre six inches in diameter, forming a chamber two and a half inches between the eleven-inch cylinder and six-inch flue. Ten inches from the top there is a bottom with an opening in front, (as seen in fig. 1, letter L,) of one-third the circumference, for the purpose of letting the air pass from the lower chamber D. Five inches below, I place another bottom of cast iron, (as seen in fig. 2, letter E,) forming a chamber of two and a half by four and a half inches around the six-inch flue, with the collar attached, (letter K,) through which the air is admitted from the bottom of the stove into the heating chamber. When the air passes through the collar K it passes to the right and left, (as seen by the arrows in fig. 1,) into the upper chamber at letter L, and thence up the chimney-flue to the register.

Having described the air-heating chamber, I will proceed to describe how it is placed in the stove and the action of the fire thereon.

The rim or top M is one and a quarter inch in width, with a flange on the outside one-half an inch in depth to fit inside the stove cylinder. This rim should be of cast iron to support my heating chamber in its place, and also to close the top of space O, (in fig. 3,) in which the fire has a direct action on the stove and on my heating chamber. Through this space O the smoke passes, and escapes, through the collar H, into the oval column, as seen on each side of the stove. The fire has also a central action in the heating chamber, entering the flue B at F, (as seen in fig. 1,) and through which the smoke passes through collar I, (as seen in fig. 3,) into space O, then into collars H as above. Flue B is enclosed with a movable top, N.

I shall now give a description of my improved rake and its operation. It is constructed with a bar, R, (fig. 4,) with teeth placed therein, so that there will be a tooth at each opening of the grate, as in fig. 6; also, two sliding-bars P on the back, with a handle, S, in front, which is moved as a piston through ears I on the rear of the grate.

For the purposes I have in view, a stove, a furnace, and a heater may be regarded as equivalent terms; and I claim—

1. In combination with a stove, an air-heating chamber, constructed and arranged substantially as described.
2. In combination with the foregoing, a grate, with the rake S R constructed and operating substantially as described.

GEORGE W. BEARD.

Witnesses:

R. C. PINDELL,
H. H. REAM,